L 4933-66

ACC NR: AT5022682

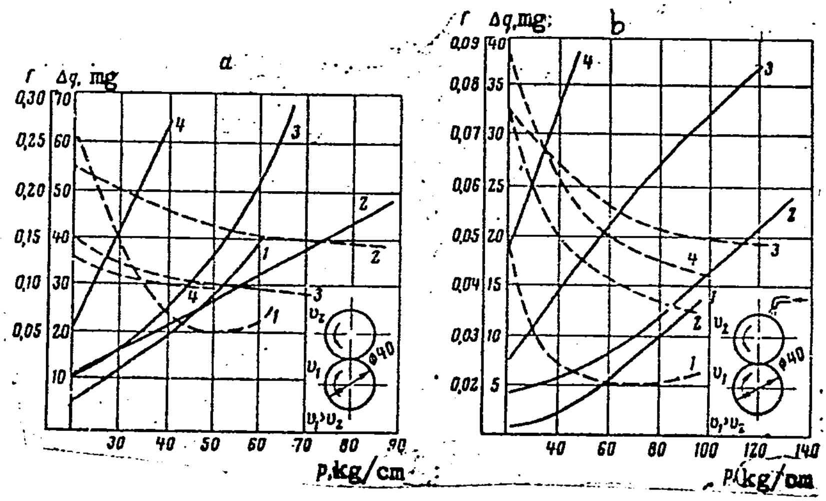

Fig. 1. Weight loss Δq (-) and friction coefficient f (---) vs specific load P for polymer-steel couples (0.18 m/sec):
a- without lubrication,
b- with lubrication;
1- polycaproamide B;
2- caprolon B;
3- textolite PT;
laminate DSP-G

Card 3/4

[illegible]

"The Distribution and Development of Oak Mycorrhiza in the Chestnut Brown and Light Chestnut Brown Soils of Stalingradskaya Oblast." Cand Biol Sci, Moscow State U, Moscow, 1953. (RZhBiol, No 1, Sep 54)

SO: Sum 432, 2[illegible] Mar 55

MORGUN, A., inzh.; SHCHERBAKOV, V., inzh.; ZUBKOV, V, inzh.; SMEKALIN, V., inzh.

Rubber cleaner for separator sieves. Muk.-elev.prom. 25 no.7: 16-17 Jl '59. (MIRA 12:11)

1. Gor'kovskiy mashinostroitel'nyy zavod im. Vorob'yeva (for Morgun, Shcherbakov). 2. Gor'kovskiy mel'nichnyy kombinat No.1 (for Zubkov, Smekalin).
(Sieves)

3[illegible] S/029/61/000/0[illegible]
D055/D113

17 1107
3,2100

AUTHOR: Shcherbakov, V., Engineer Member of the Literary Society of the journal

TITLE: Safety of space routes

PERIODICAL: Tekhnika molodezhi, no. 12, 1961, 12-13

TEXT: Potential methods of preventing damage to spaceships by meteoroids are discussed. In regions where a planet's gravitational pull may cause a concentration of meteoroid showers (Makovetskiy's theory) collisions could occur hourly. It is suggested that in May 1958, the "Explorer" satellite was damaged by a meteoroid shower - the Aquarids. Since in a collision a large part of the meteoroid's energy is transformed into heat, only a super-heat-conducting metal, if invented, could withstand the effect of such a collision. The use of radar is the only reliable way of avoiding meteoroids. Since the diameter of a meteoroid weighing a few grams may not exceed one cm, the radio wavelengths would have to be measured in mm, but even this would be too long. Given an antenna diameter of [illegible] a wavelength of 4 mm and an electron [illegible]

Card 1/3

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D055/D113

Safety of space routes

Finally, meteoroids might be destroyed by electromagnetic short-wave generators, if strong enough ones existed. A single generator could create a light pressure of many millions of atmospheres and enough generators focussed together could destroy a large meteoroid. There is 1 figure.

X

Card 3/3

SHCHERBAKOV, V.

Improvement of an AM detector. Radio no.8:56 Ag '61. (MIRA 14:10)

(Radio detectors)

SHCHERBAKOV, V. (Moskovskaya obl.); BOROVKOV, V.; KOZLOV, Yu. (st.
Alabushevo, Moskovskoy obl.); KOPEYKIN, V. (g. Pushkino);
KOLOSOV, I. (g. Leningrad); RAKCHEYEV, N. (g. Torzhok); MARTYNOV, K.

Repaired by amateurs. Radio no.8:47-48 Ag '61. (MIRA 14:10)
(Television- Repairing)

SHCHERBAKOV, V., inzh.

Safety of cosmic airways. Tekh. mol. 29 no.12:12-13 '61.
(MIRA 15:1)

1. Chlen litob"yedineniya zhurnala "Tekhnika molodezhi".
(Astronautics)

SHCHERBAKOV, V., inzh.; KORTNEV, O., inzh.

Hydraulic giant for the cleaning of petroleum tank vessels from petroleum product residues. Rech.transp. 20 no.6:45-46 Je '61. (MIRA 14:6)

1. Astrakhanskoye TSentral'noye konstruktorskoye byuro Ministerstva rechnogo flota.

(Tank vessels—Cleaning)

SHCHERBAKOV, V., inzh.; SIBGATULIN, Sh., inzh.

Cleaning petroleum tank vessels from gasoline residues. Rech. transp. 21 no.3:25 Mr '62. (MIRA 15:4)

1. Astrakhanskoye tsentral'noye konstruktorskoye byuro.
(Tank vessels--Cleaning)

KOTIK, I.; ROGOV, V.; GROMOV, P.; FEYGIN, L.; SHCHERBAKOV, V.; ROGOVER, M.;
BUTKEVICH, P.

Innovators of the Leningrad Metalworks to the 22d Congress of the CPSU. Mashinostroitel' no.9:30-32 S '61. (MIRA 14:10)
(Leningrad--Machinery industry--Technological innovations)

59812
S/018/62/000/009/001/001
D045/D114

21.7200
AUTHOR: Shcherbakov, V., Captain

TITLE: A ruler-stencil for plotting the trail of radioactive contamination

PERIODICAL: Voyennyy vestnik, no. 9, 1962, 116

TEXT: The 70-cm-long, three-section ruler (Fig.) is simple in design, accurate, saves time when estimating radiation contamination resulting from surface nuclear explosion and can be folded and carried in a map case. The ruler can be made of duralumin alloy or any transparent material. It consists of hinges (1 and 2), a protractor (3) for measuring the direction of the mean wind, a millimeter scale (4) for measuring distances, a graph (5) for determining the areas of contamination zones according to their radii, semiellipses (6) for tracing the radioactive trail on the map and an axial line (7) which coincides with the axis of the trail. Reference tables (8) can also be included. The circles cut out on the top left and right hand sides of the ruler are used for plotting contamination zones. The dimensions of the major axes of the semiellipses are given in cm. There is 1 figure.

Card 1/2

SHCHERBAKOV, V.

Coal miners' assistance to the farms. Sov.shakht. 10 no.7:22 Jl '61. (MIRA 14:8)

1. Nachal'nik shakhty No.6 "Novovolynskaya" tresta Novovolynskugol'.
(Coal miners)

SHCHERBAKOV, V., inzh.

Through electronic glasses. Znan.sila 37 no.4:22-23 Ap '62.
(MIRA 15:4)

(Photoelectric cells)

SHCHERBAKOV, V., inzh.

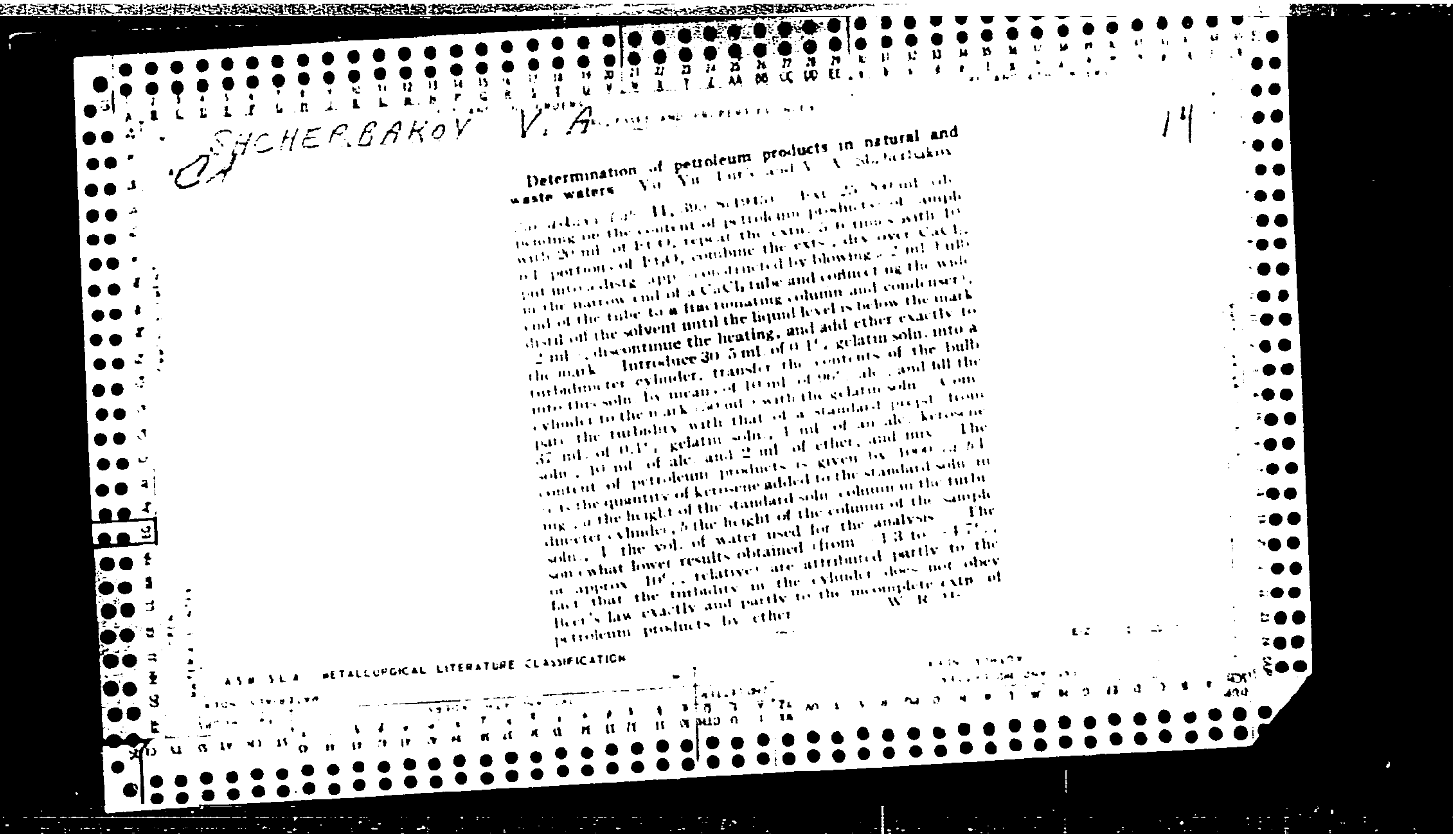
Radar antennas look down. Tekh. mol. no.5:19 My '62. (MIRA 15:6)
(Radar in aeronautics)

SHCHERBAKOV, V.A.

5654. SELECTION OF EQUIPMENT FOR CONTROL OF SUPERHEAT TEMPERATURE IN LARGE BOILER PLANTS WITH HIGH STEAM CONDITIONS AND NATURAL CIRCULATION. Shcherbakov, V.A. (Pap. IC.477, to TsKTI, 1956; abstr. in Energomashinostroenie (Pwr Mach., Leningrad), July 1957, 36).

SHCHERBAKOV, V.A. (Leningrad)

Study of a relay-type stabilization system which is being acted upon by external moment. Izv. AN SSSR. Otd. tekh.nauk.Energ. i avtom. no.4:155-163 Jl-Ag '60. (MIRA 13:8)
(Automatic control) (Stability)



CA SHCHERBAKOV V. A.

14

Determination of petroleum products in natural and waste waters. Ya. Yu. Lur'e and V. A. Shcherbakov. [illegible] 11, [illegible] — [illegible] depending on the content of petroleum products, [illegible] repeat the extn. 3-6 times with 20 ml. of Et₂O, combine the exts., dry over CaCl₂ [illegible] portion of Et₂O, [illegible] put into a distg. app. (constructed by blowing [illegible] in the narrow end of a CaCl₂ tube and connecting the wide end of the tube to a fractionating column and condenser), distil off the solvent until the liquid level is below the mark (2 ml.), discontinue the heating, and add ether exactly to the mark. Introduce 30.5 ml. of 0.1% gelatin soln. into a turbidimeter cylinder, transfer the contents of the bulb into this soln. by means of 10 ml. of 96% alc., and fill the cylinder to the mark [illegible] with the gelatin soln. Compare the turbidity with that of a standard prepd. from 37 ml. of 0.1% gelatin soln., 1 ml. of an alc. kerosine soln., 10 ml. of alc. and 2 ml. of ether, and mix. The content of petroleum products is given by [illegible] where a is the quantity of kerosine added to the standard soln. in mg., a the height of the standard soln. column in the turbidimeter cylinder, b the height of the column of the sample soln., V the vol. of water used for the analysis. The somewhat lower results obtained (from 1.3 to 4.7%, or approx. 10%, relative) are attributed partly to the fact that the turbidity in the cylinder does not obey Beer's law exactly and partly to the incomplete extn. of petroleum products by ether. W. R. H.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SHCHERBAKOV, V. A. (Eng.) Cand. Chem. Sci.

Dissertation: "Aggressive Action of Certain Natural and Waste Waters on Concrete." All-Union Sci Res Inst of Water Supply, Sewerage, hydrualic Engineering Structures and Engineering Hydrogeology--VODGEO, 3 Jul 47.

SO: Vechernyaya Moskva, Jul, 1947 (Project #17836)

ZAKHAROV, A.A., kand.tekhn.nauk; MOCHAN, S.I., kand.tekhn.nauk; SHCHERBAKOV, V.A., kand.tekhn.nauk; BRAUDE, I.Ye., inzh.; IVYANSKIY, S.I., inzh.; MODEL', Z.G., inzh.

Reliability of steam superheaters. Elek.sta. 30 no.1:91-94 Ja '59. (MIRA 12:3)

(Superheaters)

[illegible], [illegible].D.; [illegible], V.A.; [illegible]

Planning in research institutes and design offices. Planirovanie v nauchno-issledovatel'skikh institutakh i kon- [illegible] • [illegible], Ekonomika, [illegible]
(MIRA [illegible])

ACC NR: [illegible] (N) SOURCE CODE: UR/0078/66/011/002/0252/0255

AUTHOR: Vdovenko, V. M.; Romanov, G. A.; Shcherbakov, V. A.

ORG: none

TITLE: Uranium (IV) fluorido complexes in solutions of aluminum salts

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 2, 1966, 252-255

TOPIC TAGS: uranium compound, fluorine compound, aluminum compound, spectrophotometric analysis, proton resonance, stability constant

ABSTRACT: The behavior of U(IV) fluoride complex compounds in aqueous solutions of
Al salts was studied by the spectrophotometric and proton resonance methods. Initial
solutions of tetravalent U were obtained electrochemically by reduction of U(IV) in
1 N $HClO_4$. Two series of solutions were prepared, the first set having a constant con-
centration of 0.048 mole/l of U(IV) with 1 ion of U per 1 ion of F and various con-
tents of $Al(ClO_4)_3$, and the second solutions having a constant concentration of
0.042 mole/l U(IV) with a ratio of U(IV) : F ions = 1:1 and the amount of $Al(ClO_4)_3$
varying from 0 to 0.131 mole/l. The absorption spectra were taken with an SF-2M
spectrometer in the 440-750 mμ region of both series of solutions and the relative
time of proton relaxation (T_1) was measured in the second set. The absorption spectra
showed that practically all of the U(IV) in the first series of solutions was in the

UDC: 543.4 : 546.791.4'161

Card 1/2

ACC NR: AP6019044

form of UF^{3+} . The spectrum of UF^{3+} changed with increased concentration of Al in solution. The UF^{3+} underwent decomposition with the formation of Al fluoride complexes. The degree of decomposition of the UF^{3+} complex depended on the ratio of stability constants of fluoride complexes of Al and U(IV). This ratio was calculated (see Table 1) from spectral data for various concentrations of Al. It is apparent from the table

Table 1.

№	$[Al]_0$	$[U^{4+}]$	$[UF^{3+}]$	$K_{UF^{3+}}/K_{AlF^{2+}}$	№	$[Al]_0$	$[U^{4+}]$	$[UF^{3+}]$	$K_{UF^{3+}}/K_{AlF^{2+}}$
1	0	0	0,048	—	5	0,79	0,0[illegible]	0,039	[illegible]
2	0,26	0,004	0,044	640	6	1,05	0,0[illegible]	0,037	355
3	0,16	0,003	0,045	650	7	1,31	0,012	0,036	325
4	0,525	0,007	0,041	410	8	1,57	0,013	0,035	318
						average		440	

that the $K_{UF^{3+}} : K_{AlF^{2+}}$ ratio varied within a relatively narrow range (318 to 640 with an average of 440), although the ionic power of the solution varied considerably (from 1.5 to 11). Therefore, the $K_{UF^{3+}}$ was determined as 6 x 10[illegible] from this average ratio. This agreed satisfactorily with the literature data. The stability constant of UF_2^{2+} was determined as $K_{UF_2^{2+}}$ = 7 x 10[illegible] by calculation of the data obtained during [illegible] spectra of the second set of solutions. [illegible] [illegible] studies of the [illegible] method) [illegible] [illegible] the change of 1/[illegible] spectrophotometric [illegible] of [illegible] substantiated the [illegible] Al ions. Orig. art. has: [illegible] of the UF^{3+} after [illegible]

5(4),24(3)

AUTHORS: Vdovenko, V. M., Corresponding Member AS USSR, Shcherbakov, V. A. SOV/20-127-1-34/65

TITLE: Paramagnetism of Radioactive Solutions (Paramagnetizm radioaktivnykh rastvorov)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 1, pp 127-130 (USSR)

ABSTRACT: The present investigation deals with the magnetic properties of aqueous solutions that were either irradiated by radioactive isotopes dissolved therein or from outside by a β,γ-radiation source; furthermore, an investigation was made of the influence exerted by these magnetic properties on the time T_1, the spin lattice relaxation of the water protons. The time T_1 which is required to bring about the thermodynamic equilibrium between the spin system of the protons and the "lattice" - represented by the solution in the present case - may serve as a measuring value for the signal intensity of the magnetic nuclear resonance (Ref 2). Provisional results obtained are given. The relaxation was measured with a somewhat modified spectrometer devised by

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R. V. Pound and W. D. Knight (Ref 3); the signals were recorded by an oscillograph. The magnetic field was generated by a permanent magnet. The measuring method applied was the same as the one described by A. I. Rivkind (Refs 5, 6). The outer radiation source was given by $Eu^{152, 154}$. The following was investigated: $Na^{24}Cl$ in 10% H_2SO_4, 1-n $H_2S^{35}O_4$, $Sr^{89}(NO_3)_2$ in 1-n H_2SO_4, $Zr^{95}(C_2O_4)_2$ in 1% $H_2C_2O_4$, $Cd^{115}Cl_2$ in 0.2-n HCl and 0.5-n $HClO_4$ irradiated with $Eu^{152,154}$. Experimental results are summarized in table 1. The measure of the decrease of T_1 was given by the ratio of the signals A of the radioactive solution to the signals A_{st} of a non-radioactive standard solution of equal composition and concentration. An increase of A/A_{st} in the presence of radioactive substances may be observed from table 1. Figure 1 shows an oscillogram, figure 2 the dependence A/A_{st} on the time and on the dosage, as well as the dosage increase in dependence of time. In each case involving solved isotopes, a slow dropping was observed after a marked rise of A/A_{st}, in spite of a persisting action of the dosage. Dilution caused at first a corresponding drop, later on, however, a rise of A/A_{st} up to the value that had been measured before dilution. In the case of solutions irradiated from outside, on the other hand, A/A_{st} remained constant (Fig 3). On the strength of the relation derived by Kozyrev and Rivkind (Ref 5), the paramagnetic concentration was measured, and it was found for solutions with S^{35} and Zr^{95} to be in the range of from 10^{-4} to 10^{-2} mol, and for solutions irradiated with europium in the range of 10^{-6}. The decrease of T_1 may be caused partly by stable paramagnetic particles, and partly by radicals formed in consequence of radiolysis of water and the solution components. On the basis of

Paramagnetism of Radioactive Solutions SOV/20-127-1-34/65

J. L. Magee's work (Ref 11) the concentration of HO and HO_2 was found to be of $6.4 \cdot 10^{-4}$ mol and $1.5 \cdot 10^{-3}$ mol respectively. There are 3 figures, 1 table, and 11 references, 5 of which are Soviet.

ASSOCIATION: Radiyevyy institut im. V. G. Khlopina Akademii nauk SSSR (Radium Institute imeni V. G. Khlopin of the Academy of Sciences, USSR)

SUBMITTED: January 21, 1959

Card 4/4

VDOVENKO, V.M.; SHCHERBAKOV, V.A.

Proton relaxation in aqueous solutions of diamagnetic salts. Part 1: Solutions of nitrates of elements in group II of the periodic table. Zhur. strukt. khim. 1 no.1:28-35 My-Je '60. (MIRA 13:8)

1. Radiyevyy institut imeni V.G. Khlopina AN SSSR, Leningrad.
(Nitrates) (Diamagnetism) (Protons)

VDOVENKO, V.M.; SHCHERBAKOV, V.A.

Proton relaxation in aqueous solutions of diamagnetic salts. Part 2: Cations of alkali metals and halide anions. Zhur. strukt. khim. 1 no.1:122-124 My-Je '60. (MIRA 13:8)

1. Radiyevyy institut imeni V.G. Khlopina AN SSSR, Leningrad.
(Protons) (Alkali metals) (Halides)

VDOVENKO, V.M.; SHCHERBAKOV, V.A.

Proton relaxation in aqueous solutions of diamagnetic salts. Effect of polarization paramagnetism. Zhur. struk. khim. 1 no.2:268-269 Jl-Ag '60. (MIRA 13:9)

1. Radiyevyy institut im. V.G. Khlopina AN SSSR, Leningrad.
(Protons) (Diamagnetism)
(Uranyl compounds—Magnetic properties)

VDOVENKO, V.M.; SHCHERBAKOV, V.A.

Proton relaxation in aqueous solutions of diamagnetic salts. Part 4: Role of the ionic structure. Zhur. strukt. khim. 1 no. 4:500-501 N-D '60. (MIRA 14:2)

1. Radiyevyy institut AN SSSR imeni V.G. Khlopina, Leningrad.
(Complex ions) (Protons)

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B004/B060

1.1170

AUTHORS: Vdovenko, V. M., Corresponding Member of the AS USSR, Legin, Ye. K., Stebunov, O. B., and Shcherbakov, V. A.

21

TITLE: Relaxation of Protons in Hydrogen Peroxide Solutions Irradiated With Ultraviolet Light

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 3, pp. 645 - 647

TEXT: The present paper deals with the problem of reducing the relaxation time T_1 of protons in aqueous solutions by the effect of ionizing radiation. As a special case, they report on their measurements of T_1 in H_2O_2, where chain reactions take place under the action of ultraviolet light. Initial 30% H_2O_2 was concentrated at 15 - 20 mm Hg. Tests were conducted in quartz ampoules at room temperature. The radiation source was a ПРК-2 (PRK 2) lamp. Fig. 1 shows the ratio between relaxation signal A in irradiated H_2O_2 of varying concentration and signal A_0 in non irradiated H_2O_2.

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Relaxation of Protons in Hydrogen Peroxide
Solutions Irradiated With Ultraviolet Light

as a function of time (min). The curves tend toward saturation. The effect of paramagnetism of free radicals should vanish because of their short lifetime, immediately after illumination is stopped. The authors, however, observed an effect persisting for hours. Thus, the effect is caused not by free radicals, but by products formed under their action. Stirring of irradiated H_2O_2 led to a decrease of signals proportional to the intensity of mechanical action, under the evolution of oxygen. The authors conclude therefrom that the effect observed is caused by dissolved oxygen. The curves in Fig. 1 would then correspond to the degree of O_2 oversaturation at the given H_2O_2 concentration. The authors mention L.L. Dekabrun and A.P. Purmal', and thank Yu. V. Gurikov for a discussion. There are 3 figures and 6 references: 4 Soviet and 2 US.

ASSOCIATION: Radiyevyy institut im. V. G. Khlopina Akademii nauk SSSR (Radium Institute imeni V. G. Khlopin of the Academy of Sciences USSR)

SUBMITTED: June 23, 1960

Card 2/3

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B004/B060

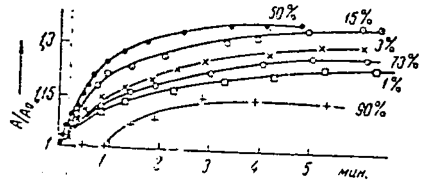

Fig.1

Card 3/3

S/192/61/002/001/005/006
B107/B218

AUTHORS: Vdovenko, V. M., Stebunov, O. B., and Shcherbakov, V. A.

TITLE: Proton relaxation in aqueous solutions of diamagnetic salts

PERIODICAL: Zhurnal strukturnoy khimii, v. 2, no. 1, 1961, 64-65

TEXT: It is of special interest to study solutions of uranyl salts, which the authors have already previously described (Ref. 1: V. M. Vdovenko, V. A. Shcherbakov Zh. strukt. khimii, 1, no. 1, 28, (1960)). Such a study is of importance not only to gather information on the nature of this ion and its hydrates but also with respect to another question the authors have been dealing with earlier. The method of the present work hardly differs from the one they have described in the first communication of this series. UO_4 was prepared by precipitating it in the cold with hydrogen peroxide from aqueous solutions of uranyl nitrite. After that, UO_4 was dissolved in the corresponding solution. By working with a certain excess of acid, hydrolysis was excluded (the pH of the solution was about 0). The concentration was controlled manganometrically. Only in the case of hydrochloric solutions, the

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B107/B218

Proton relaxation

gravimetric method was applied The experimental results are given in the Figure and in the Table The ratios τ_c^i/τ_c^o were calculated by a method described in communication II As may be seen from the Figure, the influence of the uranyl ion upon the time of proton relaxation $(1/T_1)$ depends on the nature of the anion This dependence is confirmed by the values of the molar relaxation shift ΔM, and above all, by the values for τ_c^i/τ_c^o (Table). The latter values are about the same for hydrochloric and nitric solutions, but are much higher for perchloric and sulfuric solutions The correlation between shift and ratio τ_c^i/τ_c^o for the uranyl ion on one hand and the ionic radii on the other, is of special interest (cf. Table). The most important conclusion drawn by the authors is that the degree of covalence of the bond $U - OH_2$ does not remain constant, but depends on the nature of the anion in the solution. If one considers the anion capability of complex formation with uranyl then the explanation of the above effect as being due to the formation of covalent bonds ion-anion is rather unconvincing, especially, since the stability of the complexes increases in the order $ClO_4^- < Cl^-, NO_3^- \ll SO_4^{2-}$ (Ref 2. Sammelband "Aktiniden". Redaktion G. Seaborg

Card 2/5

und J.Katz. Izd-vo inostr. lit., M. 1955. Ref. 3: I. I. Lipilina. Uranil i yego soyedineniya (uranyl and its compounds). Izd-vo AN SSSR, M., 1959). The only anion that may possibly enter into a covalent bond with uranyl is sulfate, but not perchlorate. The increase of the molar shift ΔM and of the ratio τ_c^i/τ_c^o for the anions with longer ionic radii leads to the assumption that two competing processes take place in the present case: hydration of uranyl, and its complex formation. It is probable that in these reactions it is not the capability of complex formation with uranyl of the one or the other anion that manifests itself in the measured quantities but the degree of deformation of the hydrate shell of the central ion. This assumption, however, needs a further experimental proof. The authors also point out another important characteristic of the above effect: the probable competition in the reaction of uranyl with water and the anion strongly influences the value τ_c^i/τ_c^o for the respective anion, which means that, even if these quantities can be determined with sufficient accuracy for alkali metals and halide ions, this determination is much more difficult for ions that enter into a covalent reaction with water. Uranyl forms many covalent bindings with water, which greatly influences its values τ_c^i/τ_c^o. There are 1 figure, 1 table, and 3 Soviet-bloc references. [Abstracter's note: This is a full translation from the original.]

ASSOCIATION: Radiyevyy institut AN SSSR im. V. G. Khlopina, Leningrad (Radium Institute, AS USSR imeni V. G. Khlopin, Leningrad)

SUBMITTED: January 7, 1960

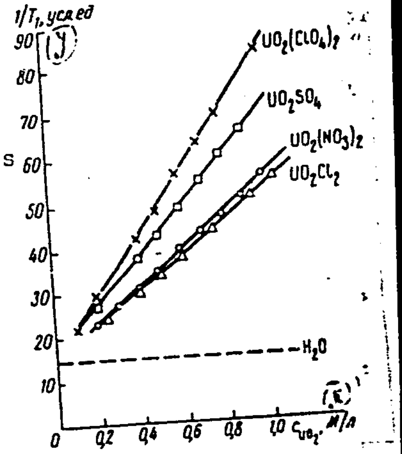

Figure: Change of the time of proton relaxation in solutions of uranyl salts. The signal of a solution of Mn^{2+} (concentration of $4.02 \cdot 10^{-4}$ M/l) is taken to be 100.0. (x) c_{UO_2} in M/l (y) $1/T_1$, arbitrary units

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B107/B218

Proton relaxation ....

Legend to the Table: 1) salt; 2) $\Delta M(\pm 0.5)$, arbitrary units; 3) radius of the anion, A.

① Соль	② Δ_M (±0,5), усл. ед.	③ Радиус аниона, A	τ_c^1/τ_c^0
$UO_2(ClO_4)_2$	68,0	2,36	42,2
UO_2SO_4	56,0	2,06	34,5
$UO_2(NO_3)_2$	40,0	1,89	25,1
UO_2Cl_2	38,5	1,81	25,2

Card 5/5

SHCHERBAKOV, V.A.

Nuclear magnetic resonance and the hydration of ions in aqueous solutions. Zhur.strukt.khim. 2 no.4:484-517 Jl-Ag '61.
(MIRA 14:9)

1. Radiyevyy institut imeni V.G. Khlopina AN SSSR.
(Hydration) (Resonance) (Electrolytes)

VDOVENKO, V.M.; PAVLOVA, L.L.; SHCHERBAKOV, V.A.

Relaxation of F^{19} in paramagnetic solutions. Zhur.strukt.khim. 3 no.6:707-709 '62. (MIRA 15:12)

1. Radiyevyy institut imeni V.G.Khlopina AN SSSR.
(Fluorine—Isotopes)
(Paramagnetic resonance and relaxation)

BORODIN, P.M.; LEGIN, Ye.K.; SVENTITSKIY, Ye.N.; KHUSIDMAN, M.B.;
SHCHERBAKOV, V.A.

Action of heavy water on the chemical shift of F^{19}. Zhur.strukt.khim.
4 no.2:266-267 Mr-Ap '63. (MIRA 16:5)

1. Fizicheskiy institut Leningradskogo gosudarstvennogo universiteta.
(Deuterium oxide) (Flurine isotopes)
(Nuclear magnetic resonance and relaxation)

SHCHERBAKOV, V.A.

Close interactions and exchange of addends; concerning the results obtained by Hertz and some other investigations of complex formation in aqueous electrolyte solutions using the nuclear magnetic resonance method. Zhur.strukt.khim. 4 no.3:342-345 My-Je '63. (MIRA 16:6)

1. Radiyevyy institut imeni V.G.Khlopina AN SSSR, Leningrad.
(Electrolyte solutions) (Complex compounds)
(Nuclear magnetic resonance and relaxation)

ALEKSANDROV, N.M.; VDOVENKO, V.M.; SOKOLOV, A.P.; SHCHERBAKOV, V.A.

Nuclear magnetic resonance of the crystal hydrates of uranyl nitrate. Zhur.strukt.khim. 4 no.5:762-763 S-O '63. (MIRA 16:11)

1. Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gosudarstvennogo universiteta i Radiyevyy institut imeni V.G.Khlopkina AN SSSR.

VDOVENKO, V.M.; ROMANOV, G.A.; SHCHERBAKOV, V.A.

Hydrolysis of a $U^{(IV)}$ ion. Radiokhimiia 5 no.1:137-138 '63. (MIRA 16:2)

(Uranium compounds)
(Hydrolysis)

VDOVENKO, V.M.; ROMANOV, G.A.; SHCHERBAKOV, V.A.

Magnetic moments of uranium (IV) ions in aqueous solutions. Radiokhimiia 5 no.5:574-581 '63.

Study of the complex formation of uranium (IV) with fluorine ions by the method of proton resonance. 581-585 (MIRA 17:3)

VLO[illegible], [illegible]; ROM[illegible]; [illegible]KH[illegible]KOV, [illegible]

[illegible] formation [illegible] with [illegible], [illegible]late, and [illegible] studied [illegible] proton resonance method [illegible] 663-674 '63. (MIRA 17:7)

L 16632-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Ps-4 RPL/AFETR WW/RM
ACCESSION NR: AP4044198 S/0079/64/034/008/2802/2803

AUTHOR: Gubanov, V. A.; Tumanova, A. V.; Dolgopol'skiy, I. M.; Shcherbakov, V. A. B

TITLE: Reaction of perfluoromethylperfluorovinyl ether with hydrogen halides

SOURCE: Zhurnal obshchey khimii, v. 34, no. 8, 1964, 2802-2803

TOPIC TAGS: perfluoromethylperfluorovinyl ether, hydrohalogenation, vapor phase hydrohalogenation, catalytic hydrohalogenation, physical property, chemical property, dihaloperfluoromethyoxyethane

ABSTRACT: The addition of the hydrogen halides to perfluoromethylperfluorovinyl ether $CF_3OCF = CF_2$ (I) was investigated. HF added to I by reaction at 115-120C for 21 hours with KF in formamide to form $CF_3OCFHCF_3$. The sodium salt of the perfluoromethyoxyperfluoropropionic acid in diethylene glycol pyrolysed at 170C to $CF_3OCF_2CF_2H$. HCl and HBr added to I in vapor phase at atmospheric pressure at 200C over a catalyst (0. 75: 0. 25 mixture of active carbon and $CaSO_4$)

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L 16632-65
ACCESSION NR: AP4044198

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to produce $CF_3OCFHCF_2Cl$ and $CF_3OCFHCF_2Br$, with some of the dihalo derivative $CF_3OCFClCF_2Cl$ or $CF_3OCFBrCF_2Br$. The latter was also obtained by brominating $CF_3OCF=CF_2$ with liquid bromine. The addition of HI to I was not successful. These monohydromonohaloperfluoromethyoxyethanes were fairly stable, did not split off hydrogen halides even in 30% alkali. Their nuclear magnetic resonance spectra were studied; values of their physical and chemical properties and of the relative chemical shift are tabulated. Orig. art. has: 1 table

ASSOCIATION: None

SUBMITTED: 08Apr64 ENCL: 00

SUB CODE: GC NO REF SOV: 001 OTHER: 001

MOSHCHANSKIY, N.A., doktor tekhn. nauk; PUTLYAYEV, I.Ye., inzh.
SHCHERBAKOV, V.A., inzh.

Large container for acid discharges protected by an epoxy coating.
Prom. stroi. 42 no. 6:19-20 '65. (MIRA 18:12)

SHCHERBAKOV V.A

S/137/61/000/011/024/123
A060/A101

AUTHORS: Ushakov, Ye. N., Abrosimov, Ye. V., Kozlov, V. I., Shcherbakov, V. A., Kotin, A. G., Sabiyev, M. P.

TITLE: Improvement of steel-smelting technology in high-capacity open-hearth furnaces

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 11. 1961, 38, abstract 11V227 (V sb.: "Novoye v teorii i praktike proizv. martenovsk. stali", Moscow, Metallurgizdat, 1961, 125 - 132. Discuss. 193 - 201)

TEXT: The authors describe the results of the investigations of the conditions of slag formation and their effect upon the productivity of high-capacity open hearth furnaces under the conditions of replacing ore and limestone in the charge by ore-limestone briquets or a premixed ore-limestone mixture. The article also describes the investigation of various variants of metal reduction. In order to exclude the influence of the thermal schedule, the experimental and ordinary smeltings were carried out at practically the same thermal loads: 35 - 38 million kcal during the charging and 25 - 27 million kcal during the finishing. The ore-limestone briquets from the Krivorozh'ye plant had the following composi-

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tion: Fe 47 - 52%, SiO_2 5.4 - 6.9%, CaO 10.1 - 14,1%; basicity 1.8 - 2.2. To raise the basicity of the slag, limestone (~1.3% of the weight of the metallic charge) was added to the charge after the melting. The main indices of the experimental and control smeltings with the use of briquets are cited, from which it follows that with practically the same composition of the metallic charge the quantity of loose materials in operating with briquets is less by 13.5 tons (2,8% by weight of the metallic charge and 12.3% of the total weight of ore and limestone). In smelting with briquets as compared with ordinary control smeltings the mean charging duration is reduced by 15 min, and that of the smelting by 1 hr 24 min. The basicity of the slag in smelting with briquets is somewhat higher than that in ordinary smeltings due to the lower SiO_2 content in the charge. Despite the fact that with the use of briquets the lapping duration is increased on account of the higher C content after the melting (by 0.11%), the total smelting duration is then still 1 hr 15 min less than that of ordinary heats. This corresponds to an increase of 9% in the hourly productivity of the furnace. The effectiveness of using lump materials in the charge is noted. The ore-limestone mixture was prepared earlier in the charge yard at ore to limestone weight-ratios of [illegible] to 1:1. The results of experimental heats with ore-lime-

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stone mixture are cited. As result of reducing the smelting time the total duration of the heat was reduced by 15 min on the average. Liquid slags with floating pieces of limestone were noted during the smelting period. The mean slag basicity after the melting turned out to be considerably lower than in ordinary heats, which deteriorated the conditions of metal desulfuration. The finishing of the experimental heats, on account of the higher S content at a low C content (during smelting in the presence of high acidity slag much more C was burned out than in ordinary heats) is made more difficult and requires the addition of large quantities of limestone, and in special heats, also of Fe-Mn. The inefficiency of the use of ore-limestone mixture is noted, since a very small effect is achieved by it. The main indices of heats with the reduction in ladles and in the furnace are cited. Reduction in the furnace lowers the duration of the finishing, reduces the Mn burn-off (by 30% on the average) and the saving of about 3 kg of Fe-Mn per ton of steel is effected. Despite a somewhat greater complexity of the technological process the method of reducing the smelt in the ladle while smelting in high-capacity furnaces is recommended for large-scale production.

I. Polyak

[Abstracter's note: Complete translation]

Card 3/3

BULANOV, N.G.; KUPRIYANOVA, L.V.; TSUKERMAN, R.V.; BUDNYATSKIY, D.M.; GEL'TMAN, A.E.; KOSTOVETSKIY, D.L.; PISKAREV, A.A.; TARANIN, A.I.; KORNEYEV, M.I.; MOISEYEV, G.I.; KENDYS, P.N.; KIRPICHEV, Ye.F., RUBIN, M.M.; SOKOLOV, N.V.; SHCHERBAKOV, V.A.; KOVALEV, N.N.; BELOV, A.A.; SEREBRYAKOV, G.M.; SATANOVSKIY, A.Ye., red.; RODDATIS, K.F., red; KORKHOVA, V.I., red.; CHEREPENNIKOV, B.A., red.; KOGAN, F.L., tekhn. red.

[Manufacture of power machinery abroad] Energeticheskoe mashinostroenie za rubezhom. Moskva, 1961. 583 p. (MIRA 16:8)

1. Moscow. TSentral'nyy institut nauchno-tekhnicheskoy informatsii mashinostroyeniya.
(Electric power plants--Equipment and supplies)

ABROSIMOV, Ye.V.; SHCHERBAKOV, V.A.; SABIYEV, M.P.; DRYAPIK, Ye.P.

Making of low-alloy steels in 500-ton open-hearth furnaces.
Stal' 21 no.6:499-504 Je '61. (MIRA 14:5)
(Open-hearth furnaces)
(Steel alloys--Metallurgy)

SHCHERBAKOV, V.A.; ABROSIMOV, Ye.V.; STUL'PIN, Ye.A.; GOROKHOV, L.S.

Mechanism of slag formation during the melting period in high capacity open-hearth furnaces. Izv.vys.ucheb.zav.; chern.met. 5 no.11:48-56 '62. (MIRA 15:12)

1. Moskovskiy institut stali i splavov.
(Open-hearth process) (Slag)

NOVIN, R.B.; SHCHERBAKOV, V.A.

Combination method for the ore dressing of oxidized copper ores. Sbor. nauch. trud. Gintsvetmeta no.19:130-147 '62.
(MIRA 16:7)

(Ore dressing) (Copper ores)

NOVIN, R.B.; SHCHERBAKOV, V.A.

Ways of increasing the recovery of copper at the Almalyk Ore Dressing Plant. TSvet. met. 35 no.5:11-17 My '62. (MIRA 16:5)
(Almalyk--Ore dressing) (Copper--Metallurgy)

SHCHERBAKOV, V.A.; ABROSIMOV, Ye.V.; Prinimali uchastiye: USHAKOV, Ye.N.;
KOZLOV, V.I.; KOTIN, A.G.; SABIYEV, M.P.

Slag conditions during melting in high-capacity open-hearth furnaces. Izv. vys. ucheb. zav.; chern. met. 6 no.7:59-64 '63. (MIRA 16:9)

1. Moskovskiy institut stali i splavov.
(Open-hearth process) (Slag)

GOROKHOV, L.S., inzh.; ABROSIMOV, Ye.V., kand.tekhn.nauk; SHCHERBAKOV, V.A., inzh.; STUL'PIN, Ye.A., inzh.; SABIYEV, M.P., inzh.; PLOSHCHENKO, Ye.A., inzh.

Interrelation of the conditions of carbon oxidation and the introduction of additives with the thermal parameters of the ore boil during smelting in large furnaces. Stal' 23 no.5: 404-408 My '63. (MIRA 16:5)

(Open-hearth process)

SHCHERBAKOV, V.A.

Fusibility of an aluminium bath electrolyte containing sodium chloride and magnesium fluoride. Izv. vys. ucheb. zav., tsvet. met. 7 no.5:66-70 '64 (MIRA 18:1)

1. Kafedra elektropirometallurgii tsvetnykh metallov Leningradskogo politekhnicheskogo instituta.

PIKULIN, S.A.; SHCHERBAKOV, V.A.; DONSKAYA, S.N.; GOROKHOV, L.S.

X-ray diffraction study of the phase composition of open-hearth slags during the smelting period. Zav. lab. 30 no.9:1102-1105 '64. (MIRA 18:3)

1. Moskovskiy institut stali i splavov.

CHUVIKIN, N.G.; SHCHERBAKOV, V.A.

Analytical determination of temperature fields by the height of the regenerator checkerwork in an open-hearth furnace. Izv. vys. ucheb. zav.; chern. met. 8 no.5:173-179 '65. (MIRA 18:5)

1. Moskovskiy institut stali i splavov.

BUSLAYEV, Yu.A.; SHCHERBAKOV, V.A.; DYATKINA, M.Ye.

Nuclear magnetic resonance of F^{19} in the solution of fluorides of the elements of the group IV. Zhur. strukt. khim. 6 no.1:16-20 Ja-F '65. (MIRA 18:12)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova AN SSSR i Radiyevyy institut imeni V.G. AN SSSR, Leningrad. Submitted August 22, 1964.

[illegible]

[illegible]

[illegible]

MAL'TSEV, G.Z.; MALININ, G.V.; MASHOVETS, V.P.; SHCHERBAKOV, V.A.

Thermodynamic properties and nuclear magnetic resonance spectra of H^1 and Na^{23} of caustic soda solutions. Zhur. struk. khim. 6 no.3:371-377 My-Je '65. (MIRA 18:8)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta i Radiyevyy institut imeni V.G.Khlopina.

ISAKOV, P.S.; SKARYTIN, L.I.; SHCHERBAKOV, V.A.; MAKARENKO, V.I.;
BOL'SHUKHIN, V.S.; PIVNIK, M.M.; CHUDAKOV, V.D.; YAKOVLEV,
G.S.;

[DET-250 diesel-electric tractor; its construction and operation] Dizel'-elektricheskii traktor DET-250; ustroistvo i ekspluatatsiia. Moskva, Mashinostroenie, 1965. 479 p.
(MIRA 18:7)

VAZETDINOV,A.S., kand.tekhn.nauk; SHCHERBAKOV,V.D.,inzh.

Motortruck designed for the servicing of electric lines. Vest. sviazi 20 no.9:9-10 S'60. (MIRA 13:10)
(Motortrucks) (Electric lines--Maintenance and repair)

VAZETDINOV, A.S.; SHCHERBAKOV, V.D.

The KM-2 machine for the mechanization of cable-laying operations. Biul.tekh.-ekon.inform. no.9:41-43 '60. (MIRA 13:10)
(Electric lines)

USANOV, V.V., inzh.; Prinimali uchastiye: NAURITS, L.N., inzh.; TSIKLAURI,
G.V.; SHISHOV, Ye.V.; VSEKHSVYATSKIY, V.N.; tekhnik; PONOMAREVA,
T.A.; tekhnik; SHCHERBAKOV, V.D.; tekhnik; SPESIVYKH, A.F., tekhnik

Heat exchange and resistance in an axisymmetric nozzle at
low supersonic speeds. Trudy VNIIKIMASH no.5:61-83 '62.
(MIRA 18:3)

SHCHERBAKOV, V.F.

Volunteer repair brigades. Gor.khoz.Mosk. 36 no.7:14 Jl '62.
(MIRA 16:1)

1. Pervyy zamestitel' predsedatelya ispolnitel'nogo komiteta Leningradskogo rayonnogo Soveta deputatov trudyashchikhsya, Moskva.

(Apartment houses--Maintenance and repair)

SHCHERBAKOV, V.G., inzhener.

Separation of oilseed particles from the pressure filters of aspirators during processing of sunflower seeds. Masl.-zhir.prom. 19 no.6:27 '54. (MLRA 7:10)

1. Krasnodarskiy maslozhirkombinat.
(Sunflower seed)

KOPEYKOVSKIY,V.M., kandidat tekhnicheskikh nauk; SHCHERBAKOV,V.G.,
inzhener

Afterripening processes in sunflower seeds with a high oil content.
Masl.-zhir.prom.21 no.6:5-7 '55. (MIRA 8:12)
(Sunflower seed)

SHCHERBAKOV, V. G.

SHCHERBAKOV, V. G. --"Investigation of the Processes of Ripening and Postharvest Ripening of Oil-bearing Types of Sun Flower in Connection with Their Preservation." Krasnodar Inst of Food Industry, Chair of Fat-Production Technology, Krasnodar, 1956
(Dissertation for the degree of Candiate in Chemical Science.)

KNIZHNAYA LETOPIS
No 41, October 1956

ZARNITSKIY, G.E., kandidat tekhnicheskikh nauk; KOPEYKOVSKIY, V.M., kandidat tekhnicheskikh nauk; TROYANOVA, N.L., inzhener; SHCHERBAKOV, V.G., inzhener.

Ways of increasing the heat utilization coefficient in oil extraction plants. Masl.-zhir.prom. 21 no.2:26-28 '56. (MLRA 9:7)

1.KIIP.
(Extraction apparatus)

USSR Chemical Technology. Chemical Products and Their Application -- Fats and oils. Waxes. Soap. Detergents. Flotation reagents, I-25

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6382

Authors: Kopeykovskiy, V. M., Shcherbakov, V. G., Meyerov, Ya. S.

Institution: None [illegible]

Title: Concerning the Storage of High Oil Content Sunflower Seed in Elevator Bins

Original Publication: Maslob.-zhir. prom-st', 1956, No 3, 5-7

Abstract: By remote control temperature measurements at different levels in the bulk of the seeds and analyses of air samples secured at different levels within the stored seed an investigation was made of the behavior of highly oleaginous sunflower seed (mostly of VNIIMK 8931 variety with a fat content of ~40%) during storage in reinforced concrete silo bins holding a 25 meter deep layer of seed. It is shown that storage in a silo of sunflower seed, dried in a drum drier to a moisture content of 8.5%, results in its spontaneous

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SHCHERBAKOV, V. G.

3

Influence of moisture and some of the biochemical factors on the conditions of storage for flax seeds of high oil content. V. M. Kopeikovskii, Z. K. Zabelina, and V. G. Shcherbakov (Inst. Food Ind., Krasnodarsk). *Masloboino-Zhirovaya Prom.* 22, No. 6, 9-12(1956).—The respiratory processes of flax seeds (I) with high oil content are influenced but not uniformly by the moisture content of I. The crit. moisture contents of I at [illegible]. (not specified) were 7.5 and 8.5% for lab. and com. mixts., resp. The respiratory and lipolytic activities were significantly increased with an increase in the moisture content of I to above the crit. level.

Vladimir N. Krukovsky

KOPEYKOVSKIY, V.M., kandidat tekhnicheskikh nauk; SHCHERBAKOV, V.G., inzhener.

Apparatus for remote measurement of temperatures and determination of carbon dioxide gas content. Masl.-zhir. prom. 23 no.3:7-9 '57.
(MIRA 10:4)

1. Krasnodarskiy institut pishchevoy promyshlennosti.
(Oilseeds--Storage) (Electric meters) (Carbon dioxide)

SHCHERBAKOV, V.G.

Changes in the activity of the enzyme lipase in maturing sunflower seeds. Izv. vys. ucheb. zav.; pishch. tekh. no.1:33-35 '58. (MIRA 11:8)

1. Krasnodarskiy institut pishchevoy promyshlennosti, Kafedra tekhnologii zhirodobyvaniya.
(Sunflower seed) (Lipase)

SHCHERBAKOV, V.G.

Changes in the respiration intensity and dehydrogenase activity of oil-rich sunflower seed during ripening. Izv. vys. ucheb. zav.; pishch. tekh. no. 2:14-17 '58. (MIRA 11:10)

1. Krasnodarskiy institut pishchevoy promyshlennosti, Kafedra tekhnologii zhirodobyvaniya.

(Sunflower seed)
(Dehydrogenase)
(Plants--Respiration)

SHCHERBAKOV, V.G.

Respiratory coefficients of ripening sunflower seeds. Izv.vys. ucheb.zav.pishch.tekh. no.4:9-12 '58. (MIRA 11:11)

1. Krasnodarskiy institut pishchevoy promyshlennosti, Kafedra tekhnologii zhirodobyvaniya.
(Sunflower seed)

SHCHERBAKOV, V.G.

KOPEYKOVSKIY, V.M., kand.tekhn.nauk; SHCHERBAKOV, V.G., inzh.

Effect of mechanical ventilation on the storing and general quality of freshly harvested sunflower seeds. Masl.-zhir. prom. 24 no.1:8-11 '58. (MIRA 11:3)

1.Krasnodarskiy institut pishchevoy promyshlennosti.
(Sunflower seed--Storage)

SHCHERBAKOV, V.G.

Determining the intensity of the respiration of grains at constant temperature and moisture content. Izv.vys.ucheb. zav.; pishch.tekh. no.2:30-33 '59. (MIRA 12:8)

1. Krasnodarskiy institut pishchevoy promyshlennosti.
(Grain—Storage)

KOPEYKOVSKIY, V.M.; SHCHERBAKOV, V.G.; GARBUZOVA, G.I.

Active ventilation of oil-rich sunflower seeds with atmospheric and heated air. Izv.vys.ucheb.zav.; pishch.tekh. no.3:16-22 '59. (MIRA 12:12)

1. Krasnodarskiy institut pishchevoy promyshlennosti. Kafedra tekhnologii zhirodobyvaniya.
(Sunflower seed)

SHCHERBAKOV, V.G.

Change in the acid number of oil in ripening sunflower seeds. Izv.vys.ucheb.zav.; pishch.tekh. no.6:16-19 '59.
(MIRA 13:5)

1. Krasnodarskiy institut pishchevoy promyshlennosti. Kafedra tekhnologii zhirodobyvaniya.
(Sunflower seed oil)

KOPEYKOVSKIY, V.M., kand.tekhn.nauk; SHCHERBAKOV, V.G., kand.tekhn.
nauk; GARBUZOVA, G.I., inzh.; IGOL'CHENKO, M.I., inzh.;
RYAZANTSEVA, M.I., inzh.; TROYANOVA, N.L., inzh.

Change of the acid number of sunflower seed oil during the period of harvesting and during after-harvest ripening. Masl.-zhir.prom. 25 no.10:15-17 '59. (MIRA 13:2)

1. Krasnodarskiy institut pishchevoy promyshlennosti.
(Krasnodar Territory--Sunflower seed oil)

KOPEYKOVSKIY, V.M., kand.tekhn.nauk; SHCHERBAKOV, V.G., kand.tekhn.nauk;
Garbuzova, G.I., inzh.; IGOL'CHENKO, M.I., inzh.; RYAZANTSEVA, M.I.;
TROYANOVA, N.L., inzh.

Postharvest drying of oil-rich sunflower seeds. Masl.-zhir.prom. 26 no.3:12-14 Mr '60. (MIRA 13:6)

1. Krasnodarskiy institut pishchevoy promyshlennosti.
(Krasnodar Territory--Sunflower seed)

SHCHERBAKOV, V.G.; TRUBITSYN, N.V.

Sorption of carbon dioxide by sunflower seeds. Izv.vys.ucheb.zav.; pishch.tekh. no.4:13-18 '60. (MIRA 13:11)

1. Krasnodarskiy institut pishchevoy promyshlennosti. Kafedra tekhnologii zhirodobyvaniya.
(Sunflower seeds) (Carbon dioxide)

SHCHERBAKOV, V.G.; TRUBITSYN, N.V.

Effect of carbon dioxide on the intensity of sunflower seed respiration. Izv. vys. ucheb. zav.; pishch. tekh. no. 2:33-36 '61. (MIRA 14:5)

1. Krasnodarskiy institut pishchevoy promyshlennosti. Kafedra tekhnologii zhirov.
(Sunflower seed) (Carbon dioxide)

SHCHERBAKOV, V.G.; YEROKHINA, V.L.

Effect of a preliminary treatment on the biochemical processes in the storage of rice bran. Izv.vys.ucheb.zav.; pishch.tekh. no.5: 19-23 '63. (MIRA 16:12)

1. Krasnodarskiy politekhnicheskiy institut, kafedra tekhnologii zhirov.

ACC NR: AP6021832 (A) SOURCE CODE: UR/0332/66/000/003/0008/0011

AUTHOR: Shcherbakov, V. G.; Sirko, V. N.

ORG: Krasnodar Polytechnical Institute (Krasnodarskiy politekhnicheskiy institut)

TITLE: A study of stored food formation in maturing sunflower seeds

SOURCE: Maslozhirovaya promyshlennost', no. 3, 1966, 8-11

TOPIC TAGS: plant chemistry, plant respiration, plant metabolism, agriculture crop

ABSTRACT: The dynamics of stored food formation and biochemical changes were investigated in experiments on sunflower seeds of the "perodovik" variety. Respiration intensity, lipid storage rate, and moisture content of seeds during maturation served as indices. Findings show that maturation of sunflower seeds is characterized by a period of rapid metabolic process changes followed by a period of slow changes. The most intense changes related to the basic mass of stored lipids and proteins take place during the first period in the presence of a relatively high moisture content (60% or higher) and are accompanied by a continuous reduction of respiration intensity. The second period is

Card 1/2 UDC: 665.3/35:633.854.78

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

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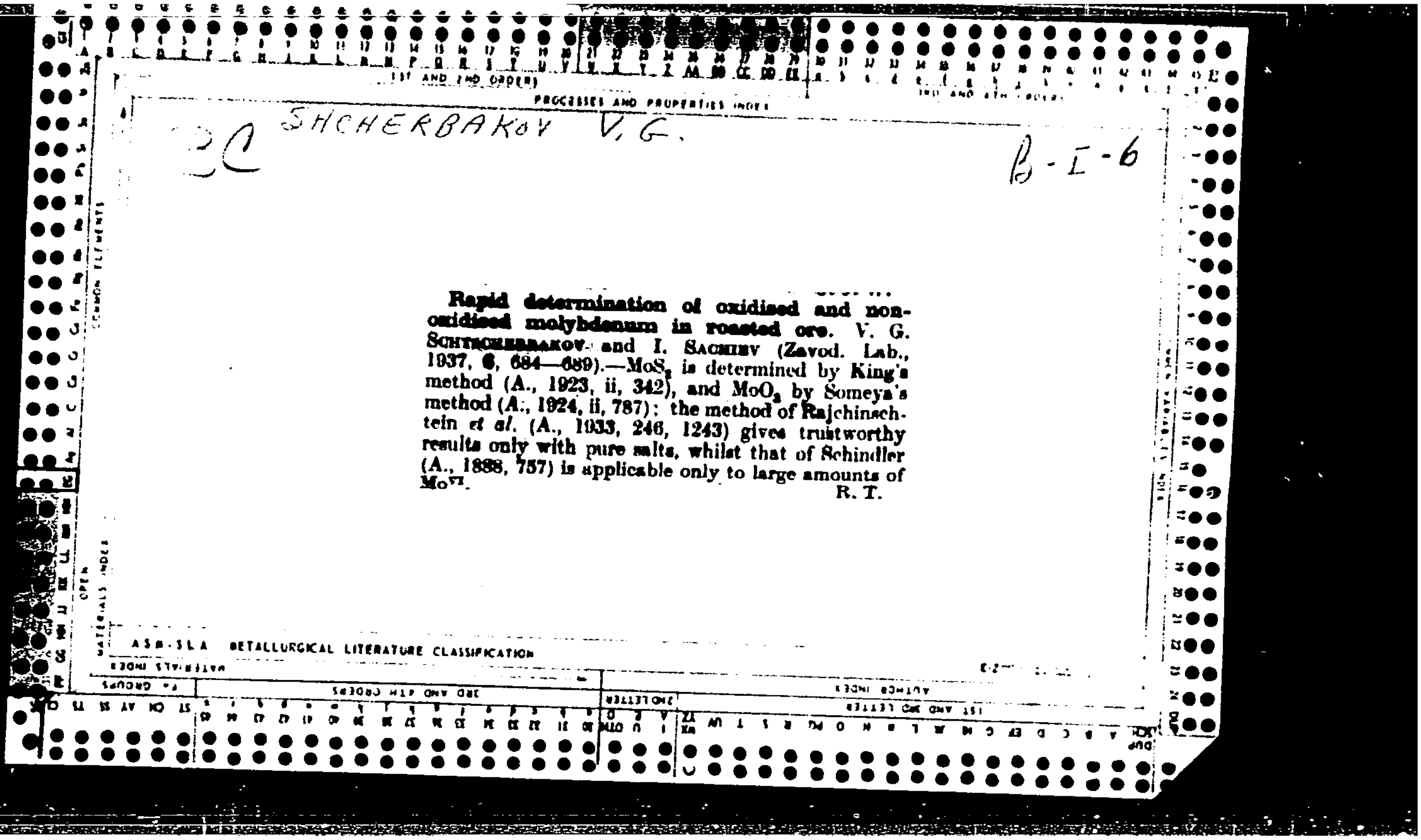
Aluminum fluosilicate. V. G. Shcherbakov. Russ. 51,957, Oct. 31, 1937. $Al(OH)_3$ is dissolved in a mixt. of HF and H_2SiF_6 and SiO_2 is added. The reaction mass is cooled and Al fluosilicate sepd. in the usual manner.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Volumetric determination of cerium in the presence of other rare earth oxides. V. G. Shcherbakov. *Zavodskaya Lab.* **6**, 160-1(1937).—The application of the Von Knorre's method (*Z. angew. Chem.* **10**, 685, 717(1897)) to the detn. of Ce in the presence of other rare earth compds., depends on the complete soly. of rare earths in 50% H_2SO_4 in the presence of H_2O_2, and is based on the reaction: $2Ce(SO_4)_2 + H_2O_2 = Ce_2(SO_4)_3 + H_2SO_4 + O_2$; $2KMnO_4 + 5H_2O_2 + 3H_2SO_4 = K_2SO_4 + 2MnSO_4 + 8H_2O + 5O_2$. To 0.25-0.3 g. of oxides, wetted with a few drops of H_2O, add 50 cc. of 50% H_2SO_4 and 2 cc. of 3% H_2O_2 and boil to strong fuming. Transfer the mixt. in small portions and const. cooling into 100 cc. H_2O. Neutralize the soln. (turbidity) with NH_4OH and add H_2SO_4 to 1% acidity by vol. Introduce 1 g. $(NH_4)_2SO_4$, boil 2 min., cool to 50°, add 2 g. persulfate and boil 5 min. Introduce 1 g. persulfate and 25 cc. of 20% H_2SO_4 and decomp. the excess persulfate by boiling for 25-30 min. (keep the vol. const. by adding H_2O). Cool the soln. under tap water, add 0.1 *N* H_2O_2 to a complete decolorization and then a small excess, and titrate back with $KMnO_4$. If H_2O_2 fails to react quickly with $KMnO_4$, add a little of 1% H_2SO_4 and $MnSO_4$ soln. to activate the reaction. Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

2C SHCHERBAKOV V. G.

B-E-6

Rapid determination of oxidised and non-oxidised molybdenum in roasted ore. V. G. Schtscherbakov and I. Sachiev (Zavod. Lab., 1937, 6, 684—689).—MoS_2 is determined by King's method (A., 1923, ii, 342), and MoO_3 by Someya's method (A., 1924, ii, 787); the method of Rajchinschtein *et al.* (A., 1933, 246, 1243) gives trustworthy results only with pure salts, whilst that of Schindler (A., 1888, 757) is applicable only to large amounts of Mo^{VI}.

R. T.

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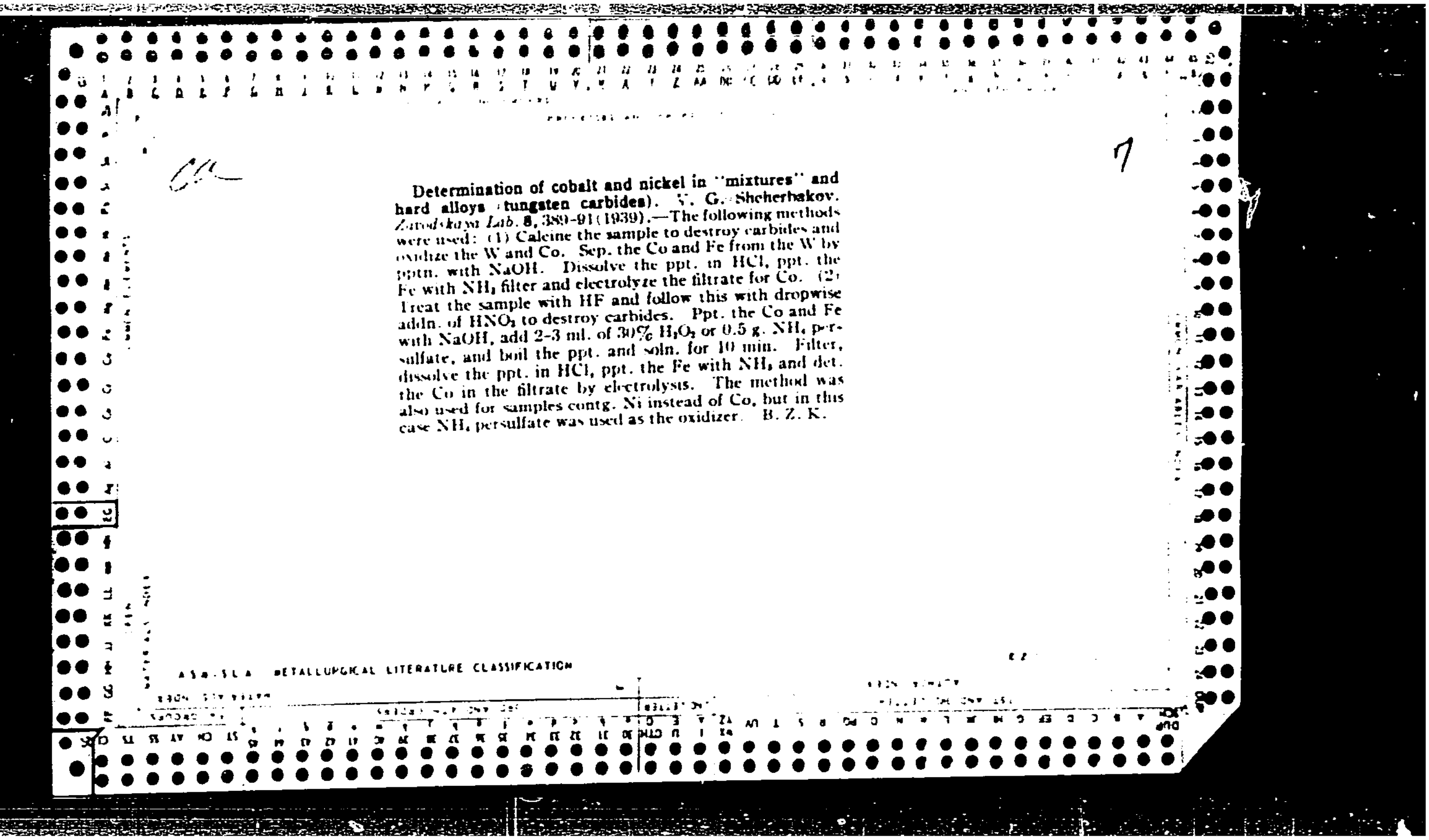

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Determination of cobalt and nickel in "mixtures" and hard alloys (tungsten carbides). V. G. Shcherbakov. *Zavodskaya Lab.* 8, 389-91 (1939).—The following methods were used: (1) Calcine the sample to destroy carbides and oxidize the W and Co. Sep. the Co and Fe from the W by pptn. with NaOH. Dissolve the ppt. in HCl, ppt. the Fe with NH_3 filter and electrolyze the filtrate for Co. (2) Treat the sample with HF and follow this with dropwise addn. of HNO_3 to destroy carbides. Ppt. the Co and Fe with NaOH, add 2-3 ml. of 30% H_2O_2 or 0.5 g. NH_4 persulfate, and boil the ppt. and soln. for 10 min. Filter, dissolve the ppt. in HCl, ppt. the Fe with NH_3 and det. the Co in the filtrate by electrolysis. The method was also used for samples contg. Ni instead of Co, but in this case NH_4 persulfate was used as the oxidizer. B. Z. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

d

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Potentiometric determination of cobalt in Pobedite alloys. V. G. Shcherbakov and T. S. Kholcheva. *Zavodskaya Lab.* 9, 827-31(1940). Co in Pobedite alloys is detd. by a modified method of Dickens and Maassen (*C. A.* 30, 695⁹) in which an excess of $K_4Fe(CN)_6$ is titrated back with a Co soln. Add an excess of $K_4Fe(CN)_6$ to the Pobedite soln. then 80 ml. of 25% NH_4OH, dil. with water to 350-400 ml. and titrate back potentiometrically with Co soln. The detn. is made without the sepn. of W and Zn and gives quite satisfactory results: relative error of −0.3 to −1.8%. The set-up includes a calomel electrode but by substituting for it a compensation electrode the set-up is much simplified and the error was reduced to 0 to −1.4%. The method requires only 1 hr. for the detn. of Co. B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SHCHERBAKOV, V. G.

"Chemical Analysis of Hard Alloys." Sub 10 Mar 47, Moscow Inst of Fine Chemical Technology imeni M. V. Lomonosov

Dissertations presented for degrees in science and engineering in Moscow in 1947. Cand. Tech. Sci

SO: Sum. No. 457, 18 Apr 55

AUTHORS: Shcherbakov, V.G., Veytsman, R.M. 32-3-10/52

TITLE. The Decomposition and the Analysis of Chromium Oxide
(Razlozheniye i analiz okisi khroma)

PERIODICAL: Zavodskaya Laboratoriya. 1958, Vol. 24, Nr 3, pp. 280-281 (USSR)

ABSTRACT: As Cr_2O_3 is insoluble in concentrated acids and lyes, and as, besides, it is not easily decomposed, a new method of decomposition was worked out. Decomposition is carried out by means of sulphuric acid and potassium dichromate by means of heating and is oxidized with an alkaline hydrogen peroxide solution. The solution is then titrated with a Mohr- salt solution in the presence of orthophosphoric acid and Na- or Ba-diphenylaminosulfonate (as indicator), in which case the titer of the Mohr-salt solution must always be controlled. From tables containing results determined by this or by other methods it may be seen that agreement is good. It was established experimentally that complete and rapid oxidation is attained by means of a 0.5n alkaline solution containing 0.5-0.6% hydrogen peroxide. The reaction of decomposition takes place as follows:

Card 1/2

The Decomposition and the Analysis of Chromium Oxide 32-3-10/52

$2Cr_2O_3 + K_2Cr_2O_7 + 7H_2SO_4 = 6CrOSO_4 + K_2SO_4 + 7H_2O$

$2CrOSO_4 + H_2SO_4 = Cr_2(SO_4)_3 + O_2 + H_2O$

There are 2 tables, and 2 references, 1 of which is Slavic.

ASSOCIATION: All-Union Scientific Research Institute for Hard Alloys (Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov)

AVAILABLE: Library of Congress

1. Chromium oxide-Analysis 2. Chromium oxide-Decomposition

Card 2/2

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S/137/61/000/011/120/123
A060/A101

AUTHORS: Shcherbakov, V.G., Veytsman, R.M.

TITLE: Determination of sulfur in metallic tungsten, molybdenum, and in the anhydrides of tungstenic and molybdenic acids

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 11, 1961, 12-13, abstract 11K76 ("Sb. tr. Vses. n.-i. in-t tverdykh splavov", 1960, no. 3, 23 - 30)

TEXT: The method of determining S in W and Mo is based on the distillation of S in the form of H_2S with iodometric end. 5 g of the specimen is dissolved in 5 - 7 ml of HF and HNO_3, the solution is evaporated till dry and dried at 130°C for 15-20 min. Then a dry reaction flask is filled with 5 g $SnCl_2$, the dried precipitate, and 5 ml of ethyl alcohol, stirred for 6-7 min and then 2 g of metallic Sn and a mixture consisting of 5 g KI and 2 g Na or Ca hypophosphite are added. The flask is connected to a condenser, 40 ml of H_3PO_4 is poured into it (specific gravity 1.65), and the flask is connected to container in which there is 50 ml of Cd acetate and 75 ml of water. The flask is heated and simultaneously a stream of CO_2 is passed through it at a rate of 60 - 80 bubbles per min. The reduction

Card 1/2